



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3628-3
S113539

D3628-3
Job Sheet 181168



Part No: D3628-3

Job Qty: 250 ea

Part Name: Cupped Washer



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 7/23/18

Job Tracking No:

Due Date: 8/17/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV C IPP Rev:A New Issue 07-05-28 JLM IPP Rev:B Removed Powder Coat 07-07-11 JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	250 pcs		8/17/18	0.00	0.00	Purchasing		SEP 25 2018
110	Packaging	250 pcs		8/17/18	0.00	0.00	Packaging2		SEP 25 2018
120	QC	250 pcs		8/17/18	0.00	0.00	QC6		DAS 38
130	Packaging	250 pcs		8/17/18	0.00	0.00	Packaging3-1	5 to 5/1 A	6 SEP 28 2018
140	QC21-SA	250 Ea		8/17/18	0.00	0.00	QC21		9-89 DAS 2 PAS 9-89 3 SEP 28 2018

Part Op 100 - Issue P/O: 40573 GIF as per DWG D3628 Rev. C
Descriptions: 110 - Ensure material certification is attached
JUL 23 2018
x250

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D3628-3P	Cupped Washer	250 pcs (1 ea)	100-Purchasing	S113532

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D3628-3P	250	0	0

Part Specifications

Specifications could not be found.

Plex 7/23/18 1:02 PM Dart.lajeunesse.marie



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S113539



Part: D3628-3

Job No: 181168

Serial No/Batch: S113539

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Date: 09/25/18

DQA: _____ Date: _____

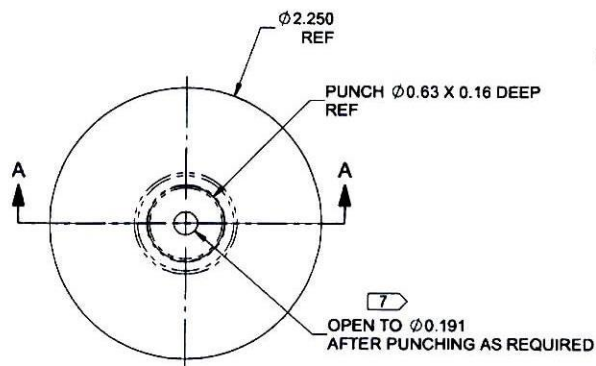


WORK ORDER NON-CONFORMANCE / UPDATE

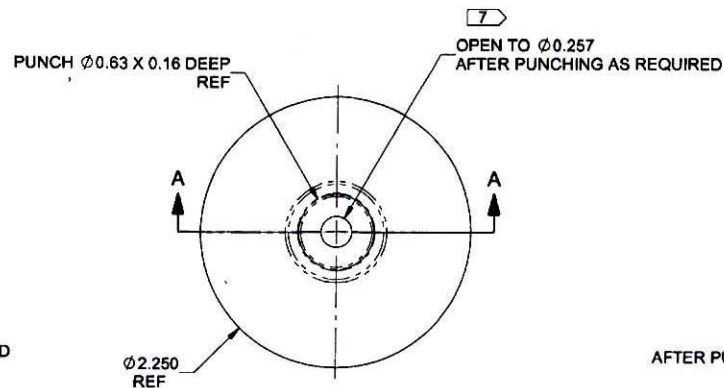
QA Closed: _____ Date: _____

Work Order update only ☐

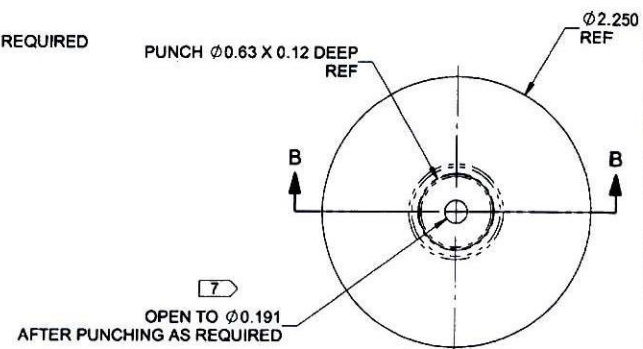
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



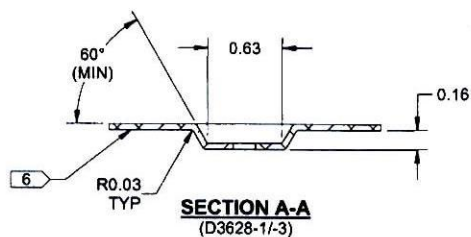
D3628-1 CUPPED WASHER



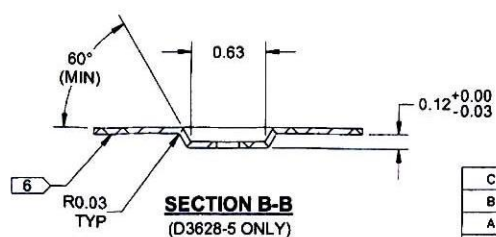
D3628-3 CUPPED WASHER



D3628-5 CUPPED WASHER



SECTION A-A
(D3628-1/-3)



SECTION B-B
(D3628-5 ONLY)

NOTES:

- 1) MATERIAL: MADE FROM D3628-1F
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.5
- 7) WHEN DRILLING OUT THE CENTRE HOLE AFTER PUNCHING, ENSURE THAT THE HOLE IS DRILLED CONCENTRIC TO THE CUPPED AREA, WITHIN 0.03"
- 8) WEIGHT: 0.02 lbs

RELEASE
2012-05-07

REV.	DESCRIPTION	BY	DATE
C	UPDATE DWG TO CURRENT STD, ADD -5, ZN C1-1	DC	12.04.19
B	REMOVE POWDER COAT	CB	07.07.09
A	NEW ISSUE	CB	07.08.08
DESIGN	DC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3628 CUPPED WASHER COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	DC		
CHECKED	DC		
MFG. APPR.	DC		
APPROVED	DC		
DE APPR.	DC	REV. C SHEET 1 OF 2 SCALE NTS	
DATE	12.04.19		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040573**

Supplier: GFI001-VC
GFI
180 Avenue Labrosse
Pointe Claire
QC
H9R 1A1 Canada
Phone: 514 630 4877
Fax: 514 630 4849

PO No: PO040573

PO Date: 7/23/18

Due Date: 8/30/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
JUL 23 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: COD

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	181168	D3628-3P			Cupped Washer As Per Dwg D3628 Rev. C	Firmed	-	8/30/18	250 pcs	0 pcs	250 pcs	\$2.67/pcs	\$667.50
Grand Total:													\$667.50

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 7/23/18 1:11 PM dart.lavoie.chantal



180 AVENUE LABROSSE
POINTE-CLAIRE, QC, CANADA H9R 1A1
TÉL.:(514) 630-4877 - FAX:(514) 630-4849

GFI est une division de Thomas & Betts Limitée / GFI is a division of Thomas & Betts Limited



BON DE LIVRAISON / SHIPPING MEMO

DATE DE LIVRAISON / SHIPPING DATE			N° DE BON DE LIVRAISON / SHIPPING MEMO NO.	PAGE
JR - DY	MO - MO	AN - YR		
21	09	18	0628455	1/1



VENDU À / SOLD TO

EXPÉDIÉ À / SHIP TO

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

CODE DE CLIENT / CUSTOMER CODE	N° DE CONTRAT / JOB NO.	VOTRE N° DE COMMANDE / YOUR PURCHASE ORDER NO.	EXPÉDIÉ PAR / SHIP VIA
DART GFI-0299	0353985	PO040573 ✓	

QUANTITÉ / QUANTITY	N° DE PIÈCE / PART NO.	DESCRIPTION
---------------------	------------------------	-------------

250 D3628-3P ✓

CUPPED WASHER

CERTIFICATE OF CONFORMANCE REQ

MFG. JOB# 0353985 - 001 QTY 250 pcs

DUE DATE: 20 September 2018



EXPÉDITEUR / SHIPPER

REÇU PAR / RECEIVED BY

DATE

TOUTES LES RÉCLAMATIONS DOIVENT ÊTRE FAITES EN DEDANS DE 5 JOURS DE LA RÉCEPTION.
ALL CLAIMS MUST BE MADE WITHIN 5 DAYS OF RECEIPT OF GOODS.

CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE



Membre de / A Member of **Thomas&Betts**

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. 8 OUR JOB NO 0353985 SHIPPING MEMO 0628455

ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
<u>-</u>	<u>250 PCS</u>	<u>PO040573</u>	<u>D3628-3P</u>	<u>C</u>	<u>CUPPED WASHER</u>	<u>C</u>
MATERIAL		SUPPLIED BY			MAT. REL. NO.	
<u>AMS 5513 304 ANN</u>		<u>TW METALS / NORTH AMERICAN STAINLESS</u>			<u>H/N 243D</u>	

	PROCESS	PROCESSOR	RELEASE NOTE #
1	<u>FIRST ARTICLE INSPECTION REPORT ON FILE</u>	<u>GFI</u>	<u>N/A</u>
2	<u>REF. GFI MANUFACTURING JOB NUMBER 0353985-001 (250 PCS)</u>		
3			
4			
5			
6			
7			
8			
9			

DAS
38
9-89

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE 21 SEPTEMBER 2018

G.F.I. Q.C. REP. [Signature]





TW METALS

O'Neal High-Performance
Metals Group

CERTIFICATIONS

FRAUD AND FALSIFICATION STATEMENT

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under statutes including federal law. Title 18 chapter 47.

CERTIFICATE OF COMPLIANCE

This certificate of compliance certifies that the material supplied on the purchase order number below complies in all respects with the material description and procurement specifications.

MERCURY FREE STATEMENT

TW Metals certifies that the supplies furnished under this contract contain no metallic mercury or mercury compounds, and have not come in contact with mercury or alpha bearing instruments while in the possession of TW Metals Inc.

Customer Name: GFI, Inc
Purchase Order No.: 0089751
Item number: 00A Shipper/Invoice No.: 12107772
Material: 304 Manufacturing Mill: NAS
Specification: Ams 5513 Heat / Lot No. 243D
Size: 050 Quantity: 1pc
Signature: Janice Clark Date: 8/17/17

DAS
38
9-89

United Performance Metals

Paul Isaacs
Paul Isaacs
Quality Associate

Customer Name: TW Metals - NY
Customer PO: D12017938
UPM Sales Order: 640254
Date: 17/08/2017
Description/Form: STAINLESS 304L - SHEET
Heat Number: 243D
Ingot: 09243D AB

Width: 48.0000 Length: 120.0000
Size: .0500
Customer P/N:
Packing List Number: 35489-1
Quantity: 80 lb. 1 pc.



NORTH AMERICAN
STAINLESS

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 254485 03
Customer: 0018 001
Mail To:
UNITED PERFORMANCE METALS
3475 STOKES ROAD
HAMILTON, OH 45015

Ship To:
UNITED PERFORMANCE METALS
3475 STOKES ROAD
HAMILTON, OH 45015

Date: 1/12/2017 Page: 1

Steel: 302/304/304L

Finish: 28

Your Order: CIN-25524-P05

NAS Order: AN 0736195 01

Corrosion: ASTM A276/15; 1800end-01

PRODUCT DESCRIPTION:

S/S COIL, C.P. ANNEALED & PICKLED; UNS 30400/30403/30200
ASTM A240/15b, A480/15, A666/15; ASME SA240/15, SA480/15, SA666/15
CHECK ONLY ON FOLLOWING: ASTM: A276/16, A479/16, A486/15, A312/16
CHECK ONLY ON FOLLOWING: ASME: SA312/13, SA479/13
AMS 5511H/5513J/5516P MRI; MIL-S-5059D AND 3 (X CRN MEAS); MIL-4043B
NACE MR0175/ISO 15156-3:2009 A, MR0103/07; QQS766D-A X MAG FERR
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED
FHT 304L/304/302; AMS 5511H

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoES 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
Melted & Manufactured in the USA; Mat'l is DPMs Compliant

Product ID #	Coil #	Thickness	Width	Weight	-----Length-----	Mark	Pieces	COMMODITY CODE
09243D AB	* 09243D AB	.0500	48.0000	16,690	COIL	2254.5	1	1 00624

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
243D	US	.0210	18.1300	.1845	1.7890	.2795	.0785	8.0100	.0250	.0011
SI %										
.2835										

MECHANICAL PROPERTIES

Product ID #	Coil #	1 d 0 1 c z	UTS KSI	20C .2% YS KSI	ELONG 1-2" %	Hard PB	Tail Hard	Grain No.	D Per F.M.
09243D AB	09243D AB	P T	97.89	51.57	47.86	88.00	86.00	8.00	1.08

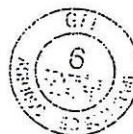
UPM/QC
Review/Approved
Spec: ALL

By: *MW* Date: 1/13/17
Pages: 1

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK 1/13/2017





Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040573

Supplier: GFI001-VC
GFI
180 Avenue Labrosse
Pointe Claire
QC
H9R 1A1 Canada
Phone: 514 630 4877
Fax: 514 630 4849

PO No: PO040573
PO Date: 7/23/18
Due Date: 8/30/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: COD
Freight Terms:
Special Comments:

Items

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A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS



Plex 7/23/18 1:11 PM dart.lavoie.chantal

APPROVED

By Pedro Mendez at 4:33 pm, Jul 23, 2018

DAS
38
9-89